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## **GEOGRAPHIC INTELLIGENCE REPORT**

### PARAGUAY

#### PART III: THE SOUTHWEST REGION



CIA/RR GR L-60-3, Part III

October 1960

**CENTRAL INTELLIGENCE AGENCY**

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PARAGUAY

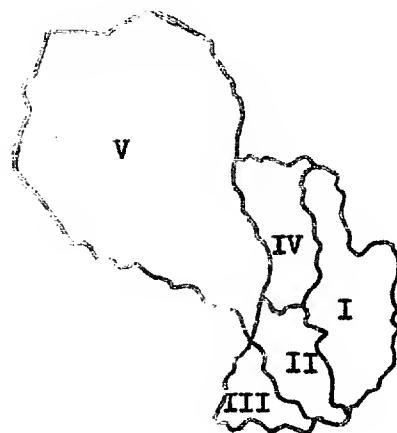
PART III: THE SOUTHWEST REGION\*

I. General Orientation

The Southwest Region, roughly triangular in shape, is bounded on the west by the Paraguay River, on the south by the Alto Parana River and on the northeast by the Central Region (see Part II). It encompasses all of the Departamento de Ñeembucú and parts of the Departamentos de Misiones, Paraguarí, and Central. The approximate area of the region is 18,440 square kilometers (7,110 square miles), which is about 10 percent less than the area of the State of Massachusetts. Fifty-two percent of the total land area is grassland, 38 percent swamp, 9 percent forest, and only 1 percent of the land is under cultivation. (See sketch below and map annex.)\*\*

Regions of Paraguay

- I. Eastern Upland Region
- II. Central Region
- III. Southwest Region
- IV. North Central Region
- V. Chaco Region



\* The information in Part III of this report on Paraguay is based on the best sources available to this Office as of 1 September 1960.

\*\* The map annex is Part VI of this report.

## II. Physical Environment

### A. Terrain

The Southwest Region is a vast, featureless, almost level plain. Except for a narrow zone in the south, where the arroyos drain into the Alto Paraná River, the surface slopes almost imperceptibly from the eastern boundary to the high banks of the Paraguay River. Although the banks of the Paraguay are almost vertical bluffs from 10 to 20 feet high, the sloping banks along the eastern reaches of the Tebicuary River are only 4 to 6 feet high at low water, and the banks along the western reaches of the river where it approaches the Paraguay are only half as high.

### B. Soils

The soils of the region are alluvial and vary from sandy loams to sand and gravel. The sandy loams are found in the interfluves, whereas the coarser sands and gravel occur as natural levees along the many rivers and arroyos. Because surface drainage is poor and subsurface drainage impeded, the water table is high at all times; and during the rainy season (January through May) extensive areas are flooded. The areas most subject to flooding are (a) a narrow band all along the Alto Paraná River; (b) the lower reaches of such rivers as the Ñeembucú and Tebicuary, where they flow into the Paraguay; and (c) that part of the region north of the Tebicuary that is more or less permanent marsh.

As far as can be determined, most of the area classified as "swamp" actually is marshland, about one-third of it permanent marsh. Areas of true swamp are found only in the low-lying stretches along the Alto Paraná River and, to a lesser extent, along the Paraguay River, where they support fairly dense stands of palms.

Because of the flooding and the sodden condition of the soils, automotive transport during the rainy season is impossible throughout the Southwest Region; and movement on foot is feasible only along the east-west-trending interfluves. During the rainy season, north-south movement of any sort is nonexistent except on the road that parallels the Paraguay River, where it is only moderately difficult.

C. Flora and Fauna

The vegetation of the Southwest Region is predominantly grasses and low shrubs in the better drained areas and sedges and reeds in the marshes. Arboreal vegetation is confined to the wet and frequently flooded areas in a fairly continuous strip along the Alto Paraná River and in fairly large but widely separated patches along the Paraguay River and also along the smaller water courses of the interior.

The woods along the Alto Paraná and the Paraguay are very similar to those of the Chaco with the black palm (caranday or carandai, closely related to the carnauba, or wax palm) being the predominant tree. Ribbons of rather stumpy mesquite and mimosa trees grow on the sandy soils that border the waterways of the interior. Elsewhere, small and widely scattered stands of deciduous trees (that for the most part have Guarani names with no English equivalents) have been heavily exploited in the past and now serve as sources of fence posts and firewood. The wood is burned locally and is also used as fuel for the wood-burning steamboats that ply the Paraguay and, to a much lesser extent, Alto Paraná Rivers. The concealment possibilities provided by the vegetation of the region are poor.

The fauna of the Southwest Region is quite similar to that of the Central Region (see Part II, p. 4), the difference being one of number rather than kind. Probably more birds but fewer animals can be found in the southwest than in the Central Region, and, undoubtedly, fish are more numerous because of the greater number of rivers. If one does not mind a predominantly fish and fowl diet the possibilities of living off the land in this region are quite good.

D. Climate

Meteorological data for Pilar ( $26^{\circ}52'S$ - $58^{\circ}23'W$ ), the only recording station in the region, show that the climate of the Southwest Region is almost the same as that of the Central Region and similar to that of Tarpon Springs, Florida (see Part II, p. 8).

In general the temperatures are a little lower than at Asunción ( $25^{\circ}17'S$ - $57^{\circ}40'W$ ) and the region is considerably drier than the area between San Juan Bautista de Misiones ( $26^{\circ}38'S$ - $57^{\circ}10'W$ ) and Encarnación ( $27^{\circ}20'S$ - $55^{\circ}54'W$ ). Nevertheless, the Southwest Region is hot and wet, having a humid subtropical climate with a hot, rainy season from October through May and a cooler, drier season from June through September. It must be emphasized that the winter is only relatively cooler and drier and that compared to Washington, D.C., it is a warm, moist period. The worst time for cross-country travel is probably from mid-January through mid-May, when 55 percent of the total annual rainfall occurs (see Table p. 5).

Table

Characteristics of Climate  
at Pilar, Paraguay, 1940-50

<u>Month</u>	Temperature (Degrees Fahrenheit)			<u>Rainfall</u> (Inches)	<u>Relative Humidity</u> (Percent)
	Average Max	Average Min	Mean Average		
Jan	92	70	81	5.2	62
Feb	90	71	81	5.2	66
Mar	85	67	76	8.3	70
Apr	80	63	71	5.2	73
May	75	59	67	4.8	75
Jun	70	55	63	3.6	78
Jul	70	53	61	1.5	73
Aug	74	55	64	1.4	67
Sep	78	58	68	2.6	68
Oct	82	62	72	3.6	65
Nov	85	65	75	6.2	64
Dec	92	68	80	4.1	60

E. Water Supply

In average years, drinking water is plentiful in the Southwest Region, even during the dry season. In addition to the large number of rivers and arroyos throughout the region the southern part has many lakes and ponds; in the marshy area north of the Tebicuary River lies Lago Ypoá ( $25^{\circ}48' S$ - $57^{\circ}28' W$ ), which during the wet season becomes the country's largest lake. Water from all sources should be boiled or otherwise purified before it is used.

III. Population

A. Distribution

The Southwest Region has some 91,000 inhabitants, and the average population density is about 5 persons per square kilometer (13 per

square mile). Actual densities vary from those of the riverine areas, approximately 4 to 8 persons per square kilometer (10 to 20 per square mile), to those of the relatively uninhabited interior, 0.8 to 2.6 per square kilometer (2.3 to 6.5 per square mile). Densities of more than 10 persons per square kilometer (26 per square mile) occur only in the vicinities of Pilar, Alberdi ( $26^{\circ}10'S$ - $58^{\circ}09'W$ ), General Díaz (José Eduvigis Díaz,  $27^{\circ}10'S$ - $58^{\circ}25'W$ ), and Paso de Patria ( $27^{\circ}13'S$ - $58^{\circ}35'W$ ).

B. Ethnic Groups

Slightly less than 3 percent of the population of the Southwest Region is classified as foreign. With the exception of fewer than 200 persons the foreigners are all Argentines. The remainder of the population is the same fairly homogeneous Spanish-Guaraní stock that is found in the rest of Paraguay. Approximately two-thirds of the population speaks both Spanish and Guarani and the other third speaks Guarani only. Most of the latter group lives in the sparsely settled interior of the region. No Indians or Mennonites (chiefly German) live in the Southwest Region.

C. Health and Sanitation

The occurrence, incidence, and virulence of diseases in the Southwest Region are almost the same as in the Central Region, although in this marshy area malaria may be more prevalent. Sanitation in the Southwest Region also is similar to that of the Central Region (see Part II, p. 11).

IV. Civil Government and Military Centers

Pilar is the only town in the region with governmental functions of any importance. In addition to being the capital of the Departamento de Ñeembucú and of the Distrito de Pilar it also has a military detachment

(unidentified and probably very small); criminal, commercial, and civil courts; a customhouse; the regional hospital; a branch of the Bank of Paraguay, as well as branch offices of various national ministries; and a number of schools.

The distrito capitals and their population are given below. Those that have a port function are followed by an asterisk.

Pilar*	5,061	Laureles	308
Alberdi*	1,310	General Díaz	269
Cerrito*	902	Pedro Gonzales	252
Humaitá*	792	Ayolas*	249
Villa Oliva*	650	Villa Franca*	198
Paso de Patria	352	Isla Umbú	186
San Juan Bautista de Ñeembucú	343	Desnochados	171
Yabebury	313	Guazú-Cuá	128
		Tacuaras	66

With the exception of Ayolas ( $27^{\circ}24'S$ - $56^{\circ}54'W$ ), which is in the Departamento de Misiones, all of the distrito capitals located in the Southwest Region are in the Departamento de Ñeembucú.

#### V. Transportation

##### A. Roads

In the Southwest Region there is only one "improved" road, Route IV, which runs from San Ignacio ( $26^{\circ}52'S$ - $56^{\circ}03'W$ ) in the Departamento de Misiones to Pilar, a distance of 156 kilometers (84 miles). In mid-1960, a section from San Ignacio to a point 45 kilometers (24 miles) west had a graveled surface; the rest was terraplén, or compacted earth. Aerial photographs, apparently taken during the dry season, show a large number of picadas de carreta (wagon trails) that connect the small settlements with each other and, ultimately, with Pilar, the most important city in the region.

Probably the most traveled of these trails is the one running north along the Paraguay River from Pilar through Villa Franca ( $26^{\circ}17'S-58^{\circ}12'W$ ), Alberdi, and Villa Oliva ( $26^{\circ}01'S-57^{\circ}53'W$ ) to Villeta ( $25^{\circ}28'S-57^{\circ}36'W$ ), in the Departamento de Central, and the one running south from Pilar, also along the Paraguay, through Humaitá ( $27^{\circ}03'S-58^{\circ}33'W$ ) to Paso de Patria at the southwesternmost tip of the country.

The picadas, and probably the dirt section of Route IV as well, can be used by automotive vehicles only when dry. Because the rainfall is high and the soils poorly drained, however, the roads are seldom dry. This means that carretas, ox-drawn wagons with huge wheels, are used most of the time for hauling everything, and they are economical only for short distances.

B. Railroads

The Southwest Region has no railroads.

C. Waterways

Bounded as it is by the Paraguay River on the west and the Alto Paraná River on the south and traversed by the country's largest all-Paraguayan river, the Tebicuary, the Southwest Region is well served by waterways. The Paraguay is by far the most important waterway because most products in the country are sent to or from Asunción. The Tebicuary and the Alto Paraná Rivers carry little of the region's traffic.

Paraguayan sources list 25 ports or landing places along the 353 kilometers (220 miles) of the Paraguay River that form the western border of the region. This would mean one port for every 8.8 miles of riverbank, an amazing density unless one realizes that the "ports" are merely cuts or arroyos in the rather high and steep bank where boats

tie up or anchor and load or unload by gangplank or lighter. At many of the ports the principal cargo is firewood for these boats. None of the ports, except Pilar, has any port facilities; and those at Pilar, a steam crane and a dock, are now unusable because of sedimentation. Of the 25, only 5 -- Humaitá, Pilar, Villa Franca, Alberdi, and Villa Oliva -- are of importance. The importance of Alberdi is not entirely reflected in the official statistics; it is reported to have a thriving contraband trade with Formosa, Argentina, across the river.

The stretch of the Alto Parana River that bounds the Southwest Region is about 275 kilometers (170 miles) and has considerably fewer ports than the Paraguay River. One of the reasons for this is that the banks of the Alto Parana are much lower than those of the Paraguay and as a result the areas subject to flooding are much larger. Cerrito ( $27^{\circ}19' S$ - $57^{\circ}40' W$ , population 902) and Ayolas (population 249), appear to be the only hamlets of any size that are located on the banks of the Alto Parana.

The 300-mile-long Tebicuary River flows into the Paraguay River 50 kilometers (31 miles) north of Pilar. A stretch of some 200 kilometers (124 miles) lies within the Southwest Region. It is estimated that the width of the Tebicuary varies from 115 to 150 meters (377 to 492 feet) in the reaches along the eastern boundary of the region to a low-water width of 250 meters (820 feet) near the mouth of the river. During low-water periods the stretch of the Tebicuary in the Southwest Region has a minimum depth of only 0.8 meters (2.6 feet).

D. Air

The only airfield in the Southwest Region lies 6 kilometers (3.7 miles) from Pilar (direction not known). Regular, although not frequent, services were provided by the Linea Aerea de Transporte Nacional (L.A.T.N.) at one time, but today only charter flights are in operation. Flights are also made by the military transport service, Transportes Aereos Militares (T.A.M.).

VI. Telecommunications

Although the Southwest Region has no telephone connection to Asunción it does have its own rudimentary telephone system. One line connects Pilar with Puerto Bermejo, Argentina, and another connects Pilar with Humaitá, toward the south. At Humaitá the line branches, with one wire continuing south through Paso de Patria to Itá Pirú ( $27^{\circ}16'S-58^{\circ}34'W$ ) -- the Alto Parana port for Paso de Patria -- and the other running eastward to Pedro Gonzales ( $27^{\circ}10'S-58^{\circ}15'W$ ), with an intermediate branch to General Díaz; continues through Desmochados ( $27^{\circ}07'S-58^{\circ}06'W$ ) and Yataity ( $25^{\circ}41'S-56^{\circ}28'W$ ), with a branch to Cerritos on the Alto Parana River; and then through Laureles ( $27^{\circ}15'S-57^{\circ}28'W$ ) to the terminus, Yabebury ( $27^{\circ}24'S-57^{\circ}11'W$ ).

The region is connected to the national telegraph net rather tenuously through Asunción. For example, if a telegraphic message were to be sent from Yabebury to Ayolas, 16 miles distant, it would have to be routed via Asunción, 160 miles to the north. Four telegraph lines run south from Villeta to Alberdi, which has a connection with Formosa, Argentina, across the Paraguay River. Two of the lines from Alberdi run south to San Fernando ( $26^{\circ}39'S-57^{\circ}56'W$ ) and the fourth connects

San Fernando with Pilar. From Pilar southward and eastward the telegraph lines are carried with the telephone lines described above. Pilar is connected with Bermejo, Argentina, and Itá Pirú is connected with Paso de Patria, Argentina. Ayolas is connected to the national network via a branch from the San Ignacio-Encarnación line. Only three of the distríto capitals in the region, Isla Umbú ( $27^{\circ}00'S$ - $58^{\circ}18'W$ ), Guazú-cuá ( $26^{\circ}53'S$ - $58^{\circ}03'W$ ) and Tacuaras ( $26^{\circ}49'S$ - $58^{\circ}06'W$ ) are without any telecommunication facilities.

There is no commercial radio station in the region. In 1949, three amateur radio stations, ZP3XA, ZP5XA and ZP8XA, were located in Pilar. The Ministry of Communications maintains in Pilar a radiotelephone station that handles part of Paraguay's international telecommunications traffic.

#### VII. Economic Development

The predominant economic activity of the Southwest Region is cattle raising. Grassland constitutes an estimated 52 percent of the region and during the drier seasons another 18 percent of the area becomes available for grazing. Over the past decade the bovine population of the region has averaged about 500,000 head, or about 20 percent of all cattle in eastern Paraguay. Although more cattle are raised in the Chaco, the density per square mile in the Southwest Region is the highest in the country.

What little manufacturing there is in the region is concentrated in Pilar, which has a textile mill (the second-largest in the country), an electric powerplant, a steam sawmill, a tannery, and a cotton gin. A number of smaller establishments make harnesses, hats, soft drinks, and tiles for local consumption.

The small amount of cultivated land in the Southwest Region is somewhat concentrated in the area around Humaitá and Pedro Gonzales, in the southwest corner, and along the higher and relatively hilly lands that extend as a narrow band along the Alto Paraná River. Corn, manioc, peanuts, beans, sweet potatoes, and some tobacco and sugarcane are grown as subsistence crops throughout the region. Surpluses of these crops and fresh fruits and vegetables are sent to the populated places nearby. The only commercial crops of any consequence are cotton, which is produced throughout the region and sent to Pilar, and oranges, some of which find their way into foreign trade.

The 1950 census showed no one engaged in mining and fewer than 200 workmen engaged in lumbering or woodworking. Some wood used for construction is cut along the banks of the Alto Paraná River; most of it is sent to a small shipyard at Cerrito on the same river.

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